

## **INLET DISTRIBUTION DEVICE FOR UPFLOW POLYMERIZATION REACTORS**

### **ABSTRACT**

A polymerization process and polymerization reactor are provided. For example, a polymerization process is described, including passing a feed stream including liquid and gas through a feed stream inlet disposed proximate an upflow polymerization reactor, passing the feed stream through a member configured to impart an angular velocity to the feed stream and entrain the liquid in the gas, and contacting the feed stream with a catalyst to polymerize the feed stream. The upflow polymerization reactor includes a housing having a lower region and an upper region, the upper region and lower region being separated by a catalyst bed, a feed stream inlet disposed proximate the lower region of the housing configured to pass a feed stream therethrough comprising liquid and gas, a fluid outlet disposed proximate the upper region of the housing, and a member mounted in the housing between the feed stream inlet and the catalyst bed having a plurality of apertures positioned at an angle of greater than about 0 degrees and less than about 90 degrees from horizontal.